COMMODITY PROMOTION: ASSESSING THE BENEFITS FOR OHIO PRODUCERS

by

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Introduction

Changing consumption patterns and slow growth in farm income have increased farmers' interest in alternative marketing programs for boosting product demand, farm revenue and profit. To accomplish these goals, farmers are increasingly turning to commodity promotion programs. Funds for commodity promotion are generated from an assessment on each producer's sales and the revenues are used for media advertising, research and development, nutrition education, and other types of promotion and market development. Producers currently contribute approximately $560 million annually to promote over 80 farm products [1]. New programs and higher assessment fees for existing programs also are being proposed. Some programs are being spawned out of a necessity to counter advertising and promotion efforts of competing commodities. Yet, despite the growing number of programs and larger expenditures, there is little understanding of the economic implications of commodity promotion programs for farm producers. This paper assesses the economics of commodity promotion.

Ohio producers, like other commodity producers across the United States, are divided and uncertain about the economic returns to commodity promotion. As evidence, Ohio soybean producers recently defeated a check-off program for soybean marketing for the sixth time in April, 1988. Similarly, Ohio egg producers voted down a commodity check-off program by an overwhelming majority in June, 1987. Ohio corn producers recently reversed this trend when they marginally approved a check-off program in December, 1988. Other Ohio commodity groups with approved commodity check-off programs include producers of beef, milk, pork, poultry, and potatoes. The economic returns to all of these programs can be quantified with econometric measurement tools, but

measurement procedures are beyond the scope of this paper. The discussion here focuses on concepts and issues which are relevant for evaluating commodity promotion programs.

The outline of this paper is as follows. The next section provides a general overview of commodity promotion. This is followed by a discussion of the most relevant concepts and factors which impact producers' returns. Following this section is a discussion of the future outlook for commodity promotion. Finally, the paper ends with the summary and conclusions.

Overview of Commodity Promotion

Commodity promotion dates back to 1935 when the Florida legislature approved a check-off assessment on producers of oranges, grapefruits, and tangerines [2]. Commodity check-off programs in other states quickly followed and today there are over 341 producer-funded programs authorized by state and/or federal legislation [1]. During 1986, 90 percent of all farm producers contributed more than $560 million to promote over 80 farm products (Table 1). Revenues for commodity promotion are generated through several voluntary and mandatory mechanisms. The most prominent voluntary mechanism is marketing cooperatives. Producers contribute as member-owners of the cooperative and the contributions are used to promote the cooperative's commodity, e.g., Sunkist oranges. And while conceptually cooperatives' promotion is generic, the intended or actual effect of such promotion is more akin to brand or market share promotion. For example, promotion by Ocean Spray, Inc., a cranberry marketing cooperative, is more likely to increase the market share of the Ocean Spray brand than increase total sales of cranberries. Revenues from voluntary efforts account for just over 5 percent of producer-generated promotion funds.

TABLE 1. Producer Expenditures for Federal and State Legislated Programs, 1986[a]

Commodity class	Advertising/Promotion			
	Domestic	Foreign[b]	Research	Total
	(Dollars in millions)			
Dairy	183.0	---	11.0	194.0
Meat	71.0	3.0	10.0	84.0
Fruit	58.2	8.3	4.2	70.7
Field crops	7.7	17.1	6.1	30.9
Natural fiber	14.8	5.9	5.8	26.5
Vegetables	8.6	1.0	2.2	11.8
Poultry/eggs	7.2	.14	1.0	8.3
Other products	6.7	.5	1.2	8.4
Total	357.2	35.9	41.5	434.6

[a] Reserves generated through federal and state legislated programs are $530 million. Eighty percent of total revenues are expended for promotion and research when allowing for refund requests, program administration and other costs.

[b] Does not include USDA/FAS matching contributions.

Source [2].

Mandatory assessment programs account for an overwhelming majority of promotion funds and these are generated through marketing orders with check-off provisions, "free-standing" or "check-off" programs, and promotional orders. Additionally, agribusiness firms and government agencies contribute another $70 million on a cost-share basis [2].

Voluntary contributions, although small relative to mandatory assessments, can be a significant part of commodity promotion. Ohio egg producers, for example, defeated an egg check-off program, but many producers voluntarily contribute 17 cents per 100-dozens sold to help fund the American Egg Board. Other voluntarily-funded organizations in the state, such as the Ohio Soybean Association and the Ohio Farm Bureau, often play a significant role in market development efforts. Voluntary organizations often endorse passage of commodity programs with mandatory assessments. Mandatory check-off programs have either refund (ask-out) or non-refund provisions. As a general rule, check-off programs authorized by federal and state marketing orders do not allow for producer refunds. By contrast, refunds are quite common under freestanding check-off programs, though granting refunds leads to a "free-rider" problem and makes promotion planning more difficult. These problems have led some commodity groups to establish non-refund provisions. Marketing order programs cover most fruits, milk, specialty crops, and vegetables. Many of the major commodities, such as beef, pork, cotton, and wheat, are promoted through freestanding check-off programs.

Producers' funds are allocated to several activities, but all of these can be captured under two broad categories: (1) advertising and promotion and (2) research. Commodity advertising and promotion are most commonly referred to as generic promotion and it consists of, among other activities, media advertising, coupon promotions, merchandising, and public relations. More than

80 percent of the net revenues from check-off programs are allocated to generic advertising and other forms of promotion (Table 2). And within the advertising and promotion category, media advertising accounts for about 80 percent of expenditures. Research funds are allocated to activities such as new product development, new market development, expansion of existing products and markets, and program evaluation. Approximately 80 percent of the advertising and promotion expenditures for nonfield crops (fruits, nuts, dairy products, etc.) are allocated to domestic market development. Conversely, more than 50 percent of promotion revenues for field crops (mainly corn, soybeans, wheat) are allocated to foreign market development [1].

Producer-funded promotional programs are intended to increase the demand for a commodity. Such demand expansion is expected to increase producers' revenue and profit. Research results from several commodity programs suggest that promotional programs are generally effective in increasing returns to producers. For example, research on milk promotion in New York state indicates that farmers receive an average net return of $2.20 for each dollar spent on generic milk advertising [3]. A study of soybean commodity promotion during the 1970-80 period shows a return of $3.3 billion in gross soybean farm income for American soybean producers [4]. These returns are based on a net increase in sales of 382 million bushels of soybeans. A more recent study estimates a return to potato producers of $1.45 to $2.02 for each $1 of advertising expenditures [5]. Many other studies also have found positive relationships between promotional expenditures and producers' returns. Few have found a negative relationship, although other researchers have reported that branded advertising of Florida orange juice reduces total industry sales [6]. Such

TABLE 2. Producer Expenditures for Federal and State Legislated Programs, Selected Years

Year	Expenditures			
	Domestic	Foreign	Research	Total
	(Constant 1986 dollars in millions)			
1979	180.6	19.7	24.6	225.0
1982	172.4	35.5	30.5	238.7
1986	357.3	35.8	41.4	434.5

Source [2].

finding raises not only the issue of whether the effects of advertising have been properly measured but also whether sales are the appropriate response variable to use in evaluating advertising effectiveness. Many researchers suggest response variables such as advertising awareness, advertising and product recall, and consumer attitude toward the product as proxies for sales [6]. Changes in consumer attitudes seem especially appropriate when negative attitudes exist about commodities.

The effectiveness of commodity or "generic" advertising and promotion is often a function of the industry or commodity characteristics [7]. Growth industries, as a general rule, receive more immediate returns to commodity advertising and promotion than do stable or declining industries. This process is especially noticeable when the primary reason for the stability or decline of an industry is because of consumers' negative attitudes toward the product or commodity [8]. Generic advertising messages often focus on changing consumers' attitudes toward a commodity by providing information about product characteristics. Such information allows consumers to make more informed and better purchasing decisions. Generic advertising messages contrast sharply with branded advertising messages which, most frequently, do not provide information about product characteristics, but attempt to persuade consumers to purchase a particular brand. Simply stated, branded advertising is directed toward increasing market shares for particular manufacturers, whereas generic advertising is directed toward increasing total commodity sales.

Although growth, stable and declining industries show different time responses to commodity promotion, the long-run effectiveness of promotion in any industry is a function of several interrelated factors. Six factors which are most crucial to the overall effectiveness of commodity promotion are discussed in the next section of this paper. These are (1) responsiveness of

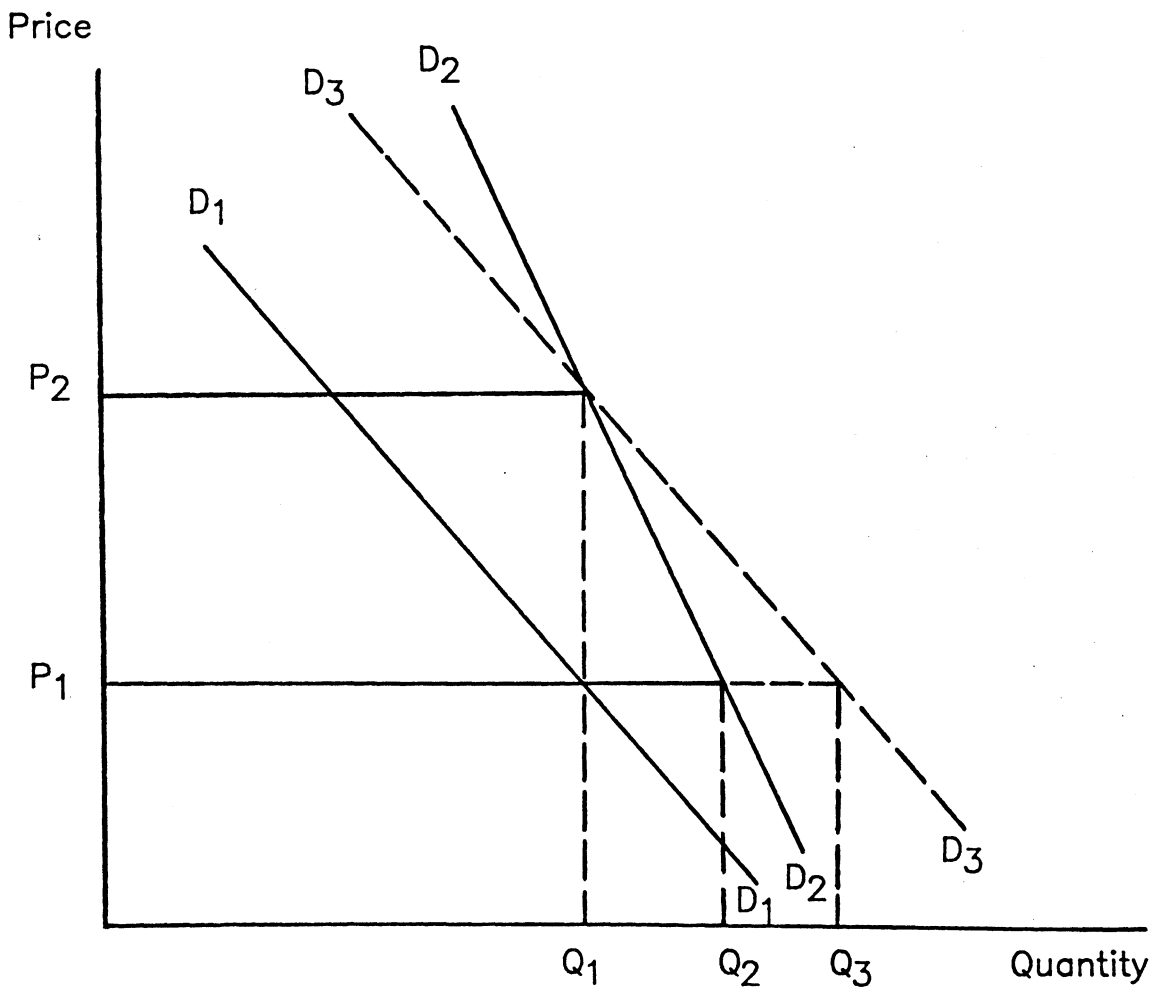
demand and supply to price changes; (2) seasonal fluctuations in demand and supplies; (3) interrelationship of generic and brand promotion; (4) degree of competitiveness in the vertical marketing system; (5) relationship of product quality to advertising and promotion; and (6) the regional impacts of commodity promotion.

Factors Impacting Producers' Returns from Commodity Promotion

Responsiveness of Demand and Supply to Price Changes

As early as the 1930's, researchers defined advertising and promotion as costs incurred to alter the position or shape of the demand curve for a product [9]. Today, economists often evaluate the effectiveness of a commodity promotion program in terms of its impact on the position and shape of the demand curve for a commodity. Ideally, the most effective commodity promotion program pushes the demand curve outward and simultaneously steepens its slope. Figure 1 shows the effectiveness of such promotion with a shift of the demand curve from D_1D_1 to D_2D_2. Most often though, an outward shift of the demand curve, as from D_1D_1 to D_3D_3, is more characteristic of commodity promotion. Either type of demand shift means consumers are willing to purchase more of the commodity at a given price or pay higher prices for any given quantity. The resulting outcome is higher farm sales, revenue, and profit, assuming that added revenues exceed the investment costs in promotion. Of course, the long-term impact of these positive returns depends on the responsiveness of supply to higher prices. If supply changes outpace demand changes, market price, producers' revenue and profit can decline.

Figure 1. Possible Impacts of Commodity Promotion on Demand



Commodity promotion which stabilizes the position or shape of the demand curve, or simply diminishes the rate of decline in demand, also may be effective. Such promotion is effective because producers' sales and revenue are higher than they would be in the absence of the promotion. Accomplishing any of these effects often requires a threshold level of expenditures and a sufficient time period for realizing the effects. As shown in Figure 2, promotion expenditures have no impact on sales of the designated commodity until expenditures reach point A. Below this level, the promotion effort is too low to influence market demand. Even after expenditures reach and exceed the threshold level, consumer behavior is not changed immediately. A delay effect, as shown in Figure 3, is normally observed as consumers gradually respond to messages about product characteristics. Commodity promotion programs which do not achieve growth, stability, or slow decline are likely to be judged ineffective by producers and program administrators. Such ineffectiveness could lead to higher refund requests and the ultimate termination of the respective program.

A steeper sloping demand curve brought about through commodity promotion can have adverse impacts on producers if there is a significant increase in supplies. This suggests that Ohio producer groups should carefully assess the supply responsiveness of the commodities when implementing promotion programs. If producer groups are not willing to implement voluntary supply controls to capture the long-term benefits of demand expansion brought about through commodity promotion, a more effective promotion strategy may consist of one which attempts to expand the demand and simultaneously increase consumers' responsiveness to price changes. Alternatively, producers could not only limit supply increases, but actually reduce supplies so as to capture even larger revenues from commodity promotion programs. Of course, the degree of

Figure 2. Relationship of Promotion Expenditures and Sales

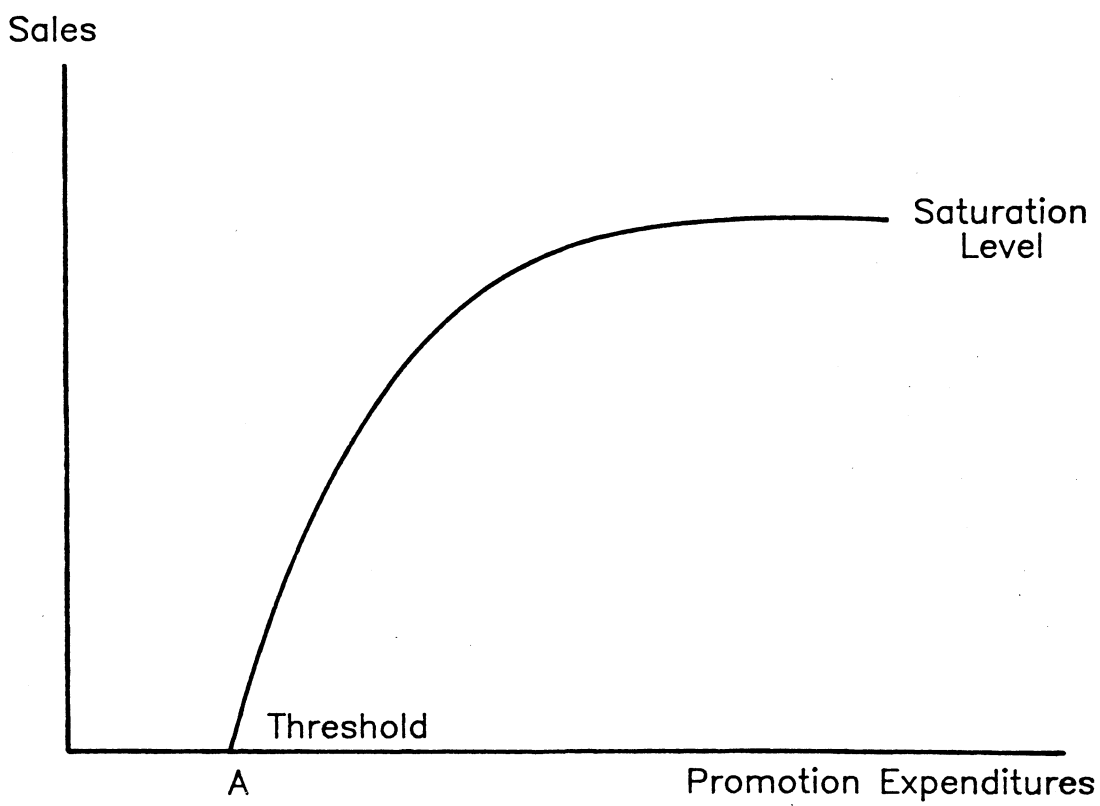
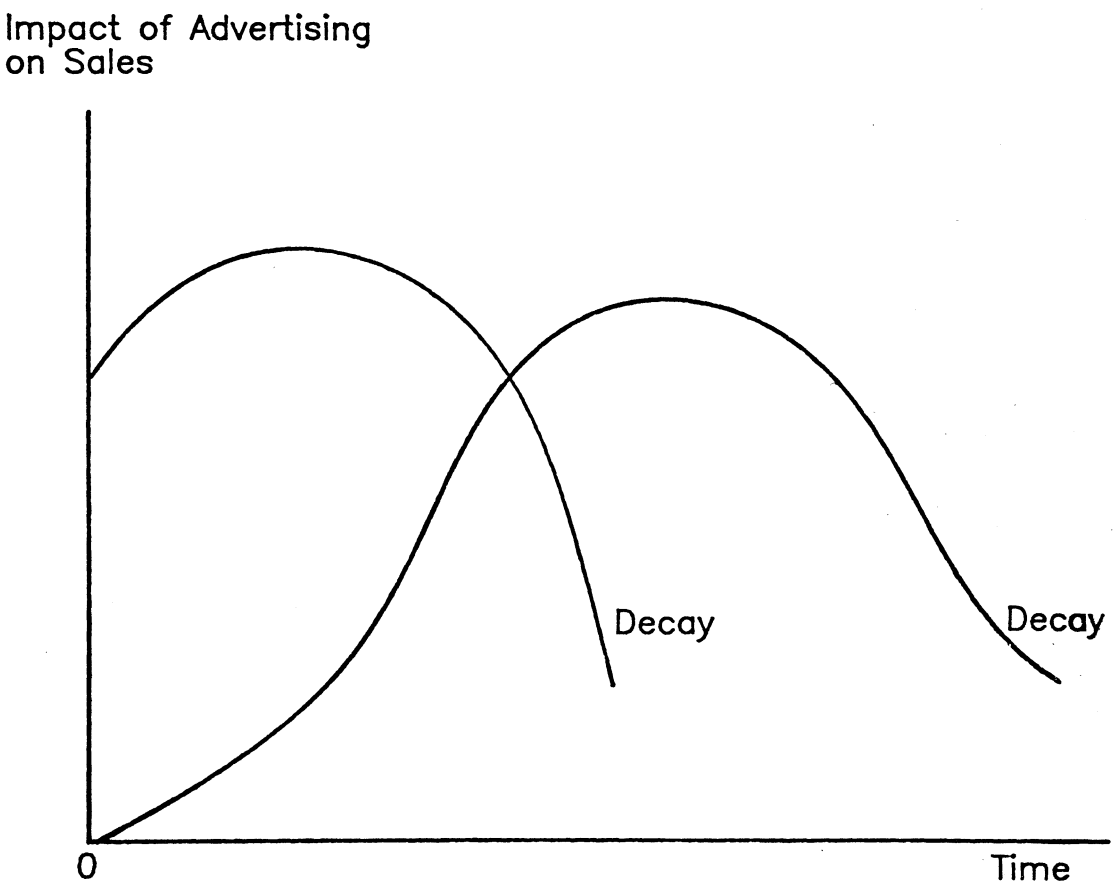


Figure 3. Alternative Impacts of Advertising Over Time



substitutability among alternative commodities must be evaluated when implementing marketing promotional strategies. A reduction in the suppply of beef, for example, may lead not only to higher beef prices but also to higher pork and poultry consumption as consumers switch from beef to substitute commodities.

Seasonal Fluctuations in Demand and Supplies

Producers of farm commodities face considerable fluctuations in supplies and demand because of the seasonal nature of production and consumption. Such seasonal fluctuations make commodity promotion more difficult to plan and implement. Stability of prices and farm revenue may be best achieved by timing promotion messages to coincide with periods of abundant supplies or weak demand. However, if demand expansion, as opposed to stability of farm price and revenue, is the primary goal of the commodity program, advertising and promotion messages may be more effective if they are timed to coincide with periods of strong or growing demand. A sudden fall in demand, as currently observed for apples[1], often requires adjustments in promotion strategies, especially when the relevant commodity is perishable. Commodity groups generally respond by increasing current outlays and reducing future outlays. Such strategies often change consumers' attitudes toward a product late in the marketing year when seasonal supplies and product quality are diminishing.

Commodity promotion programs often increase consumers' awareness about the nutritional value and other health benefits of commodities. As a result, these programs decrease the seasonal nature of demand. However, with no changes in the seasonality of supplies, marketing firms must find alternative supplies to

[1]Before the Natural Resources Defense Council released its report indicating an unsafe level of Alar (a carcinogenic pesticide) on apples, consumer surveys revealed that 88 percent of all American households were purchasing apples. A few weeks after the report, surveys showed that only 65 percent of American households planned to purchase apples.

meet market demand. Foreign markets offer alternative supplies. Foreign producers therefore benefit from U.S. commodity promotion, though some imports are subject to an excise tax to help fund promotion costs. As one example, Florida citrus producers recognized the spillover of their promotional efforts to Brazilian citrus producers and, as a consequence, the state has imposed a tax on citrus imports. When supplies are not available on a reliable and regular basis, commodity demand may fall to pre-commodity program levels, as consumers switch to other commodities. In short, any decrease in the seasonality of demand must be met with reliable supplies.

Interrelationship of Generic and Brand Advertising

Many farm commodities are converted into several processed products and heavily advertised by food manufacturers. Each manufacturer generally advertises a particular brand and is primarily concerned with increasing its market share. Commodity promotion by producer groups, more commonly known as "generic" promotion, is intended to expand total product demand. However, commodity groups benefit from branded promotion when it is complementary to generic promotion. That is, both forms of promotion serve to increase total sales. When generic and branded promotion have competing effects, the benefits from promotion are more difficult to assess. Competing effects may be realized when commodity groups emphasize the overall quality of a commodity while manufacturers emphasize product differences among brands. Complementary effects of generic and branded promotion are more likely when one manufacturer has a predominate share of the market. For example, generic advertising of the potato is more likely to be complementary to branded advertising of frozen potatoes since one potato processor controls more than 50 percent of the retail market. By contrast, competing effects of promotion might be realized when

regional producers (e.g., Idaho) emphasize the higher quality of their potatoes while the commodity group emphasizes the overall quality of potatoes.

When competing effects are realized from branded and generic promotion, producers are likely to receive lower returns on their promotion dollars. Such returns can normally be increased through joint promotion of producer groups and manufacturers. For example, the National Dairy Promotion Board and the Ice Cream Manufacturers Association have worked together to develop a common advertising theme to minimize competing advertising messages [10]. By contrast, a recent study suggests that Florida citrus producers and branded manufacturers of Florida orange juice have competing advertising messages [6]. The study suggests that Florida orange producers would receive higher revenues if branded manufacturers did not advertise orange juice. That is, nonprice competition among three branded manufacturers is serving not only to reallocate market shares among firms but also to reduce total market sales. This outcome is especially costly for Florida citrus producers because branded manufacturers receive rebates from producers for advertising Florida orange juice.

Competitiveness in the Vertical Marketing System

Commodity promotion which expands demand may not raise producers' revenue if the marketing system beyond the farmgate is noncompetitive. Because producers do not maintain ownership control of farm products throughout the marketing system, other market intermediaries with market power can capitalize on increasing demand by raising prices and diminishing potential farm sales. This phenomenon is especially acute when generic promotion enhances the effectiveness of brand promotion. That is, manufacturers with significant market power achieve enhanced market power and raise product prices. Such pricing behavior increases manufacturers' revenue and profitability, but lowers potential farm sales, revenue and profitability.

Successful (income-enhancing) commodity promotion in noncompetitive agricultural subsectors may require alternative forms of producers' organization or cooperation between producers and marketing firms (processors, manufacturers, etc.). Cooperatives offer an alternative form of organization and they have often formed as an attempt to redress a market power imbalance between farm producers and buyers of farm products. While few cooperatives become major competitors of established food marketing firms, the promotion efforts of cooperatives are potentially more effective than noncooperative efforts because of product control throughout the marketing system. Examples of cooperatives which do maintain product control through the marketing channels include Ocean Spray Cranberries and Land O'Lakes Dairy. As an alternative to organizational behavior to counter market power imbalances, some commodity groups have established joint promotion efforts with processors and manufacturers of their products. Examples of these efforts include potato producers working with the Potato Chip Snack Food Association and dairy producers working with the Ice Cream Manufacturers Association. Other marketing tools and efforts, such as bargaining associations and marketing orders, may also enhance the effectiveness of commodity promotion when marketing channels are noncompetitive.

Commodity Promotion and Product Quality

Economists have observed that advertised products are generally of higher quality than nonadvertised products [11]. While the evidence for this observation pertains mostly to branded products, commodity promotion of generic farm products is believed to have similar quality-enhancing effects. Because commodity promotion is directed toward increasing consumers' awareness about product attributes, producers receive signals from the promotional messages to supply products with the described attributes. And since the promoted

attributes most often convey information about product quality, commodity promotion therefore becomes a maketing tool for enhancing product quality and reliability.

When a commodity promotion program raises consumers' awareness and expectations about product attributes and quality, the effectiveness of promotional efforts often becomes dependent upon producers' ability to provide consistent and reliable supplies. Some commodity groups have met these objectives by implementing improved cultural and marketing practices. Not all producers, however, are inclined to change their production and marketing behavior. Hence, implementation of commodity promotion should be related to *producers' commitment* to supplying high quality products with consistent quality control. Relative to Ohio producer groups, this suggests that proposed promotional programs should assess producers' willingness and ability to implement production and marketing practices which enhance product attributes and quality.

Commodity Promotion and Regional Benefits

Although commodity promotion is generally directed toward increasing total product sales, a regional commodity program can be effective even if total product or industry sales are not increased. Regional commodity programs have some attributes of branded promotion in that market shares and enhanced product image of a local or regional product (brand) are major objectives. Idaho potato producers, for example, have enhanced the image and sales of Idaho potatoes partly at the expense of Maine potato producers. Moreover, the enhanced image of Idaho potatoes has served to attract potato processors to the state, thereby providing a market outlet for Idaho potato producers.

Relative to Ohio, commodity promotion of, say, Ohio apples and potatoes could serve to attract processors of these commodities to the state. Such

plant location normally would be in response to the success of promotional messages in conveying information about product quality and the availability and reliability of supplies. New marketing outlets of processors and other marketing firms can be expected to generate increased production and revenue for producers. These outcomes, of course, are dependent upon the success of producers in meeting the expectations of food marketing firms. Low quality and unreliable supplies could lead to a loss of markets and revenue, especially for producers who expand in response to new marketing outlets. Hence, the economic viability of local or regional commodity promotion is dependent upon the same quality and product attributes as national commodity promotion. However, local and/or regional producers are likely to realize more direct economic impacts from local or regional commodity programs.

Future Outlook for Commodity Promotion

Commodity promotion programs have expanded rapidly during the 1980's and a similar trend is predicted for the 1990's [2]. Program growth represents attempts by producers to expand the demand for their products. Although other methods exist for expanding product demand -- such as price cuts, quality improvements, and increased incomes -- producer groups view commodity promotion as a more effective method for achieving this objective. Moreover, producers have greater control over commodity promotion than over tools such as price cuts and increased consumer incomes. Additionally, sales responses generated from branded advertising messages have convinced some producers of the potential effectiveness of generic promotion. Producers also attribute the decline in consumption of some farm commodities to a lack of advertising expenditures to counter branded advertising expenditures for substitute products. For example, advertising of soft drinks is believed to impact milk

consumption. Hence, increased advertising by branded manufacturers is likely to accelerate the growth of commodity promotion programs.

Commodity programs are expected to expand not only because of fierce competition from branded producers but also because of availabile public funds for foreign market development. The U.S. government has allocated over $100 million annually to the Targeted Export Assistance Program (TEA) to assist commodity groups in developing foreign markets [10]. During fiscal year 1989, for example, the potato commodity group will receive $4.7 million in TEA funds for promotion of potato products in the Pacific Rim [12]. These TEA funds are especially attractive to commodity groups and the amount received often exceeds total assessments for some programs. Additionally, foreign market promotion is generally supported by all producers. This contrasts with domestic commodity promotion which is less likely to be supported by larger producers. To reduce the disparity in participation by larger and smaller producers, commodity groups are attempting to terminate refund provisions of commodity programs. Termination of refund provisions provides another impetus to future growth of commodity promotion, especially promotion expenditures.

Summary and Conclusions

Declining consumption of some farm commodities and slow growth in consumption of others have generated widespread interest among producers for additional marketing and management programs to enhance revenue and profitability. A program generating considerable interest today is commodity promotion. Ninety percent of farm producers contribute over $560 million annually to promote over 80 farm products. Revenue for commodity promotion is generated from producers through various voluntary and nonvoluntary mechanisms. One popular mechanism is commodity check-off programs. With check-offs, each producer is assessed an established fee and revenues are pooled to promote the

product. Popular promotion efforts include media advertising, nutrition education, new product development, and other research and promotion. A few commodity groups even offer rebates to manufacturers for costs they incur in advertising their brands of the commodity.

Although the effectiveness of commodity promotion is generally measured in terms of the impacts of promotion expenditures on sales, reseachers are expressing increased concerns about the appropriateness of this measure. The effects of promotion in changing consumer attitudes toward a commodity may be more appropriate for some commodities. For example, at the start of potato promotion in 1972, consumer surveys showed that 32 percent of American consumers thought potatoes were fattening. By 1987, this percentage had declined to 7 percent as a result of promotional messages provided on the nutritional contents of potatoes. Thus, even if sales were not responding to promotional expenditures, changing consumer attitudes could have been a necessary prerequisite to expanding sales. When sales respond to changes in advertising expenditures, reseachers are still uncertain as to the appropriate time dimension between advertising expenditures and sales. That is, are current sales a function of current expenditures or several periods of previous expenditures? Because researchers do not know how consumers respond to advertising messages, other response variables such as advertising recall, advertising awareness, and consumer attitudes toward a product have become frequent proxies for sales.

Empirical evidence on the effectiveness of commodity promotion is somewhat ambiguous and seems dependent upon the type of data and method of analysis. Quarterly or annual data used with single equation estimation generally confirm a positive relationship between advertising expenditures and sales [5; 13]. However, inconclusive or negative relationships are often revealed when monthly,

data are used with complete demand systems [14; 15]. These results suggest that researchers may be using inappropriate models to capture and explain the effects of advertising and promotional expenditures on consumers' purchasing behavior. Since a positive effect from promotion expenditures is both conceptually and theoretically plausible, more credibility is generally given to single equation models showing postive returns to promotion expenditures. However, a more serious limitation of expenditures-sales response methods probably relates to the low quality of data used in the analyses. Commodity promotion programs could be evaluated more effectively if commodity groups worked with researchers during the design and implementation of their programs. Current evaluation methods require more variation in the timing and magnitude of promotion expenditures than generally exhibited in commodity promotion planning. Ohio commodity groups can become a model for other commodity groups by involving researchers in the design, implementation and evaluation of commodity promotion. A large pool of evidence suggests positive, but poorly measured returns to commodity promotion.

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